UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,230	11/26/2003	Wuqin Lin	YOR920030507US1	9133

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Moser, Patterson & Sheridan
Suite 100
595 Shrewsbury Avenue
Shrewsbury, NJ 07702

EXAMINER
TANG, KENNETH

ART UNIT	PAPER NUMBER
2195	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/723,230	LIN ET AL.
	Examiner	Art Unit	
	KENNETH TANG	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _16 May 2008_.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _36_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _36_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _26 November 2003_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _11/26/03_.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Claim 36 is presented for examination.

2.   This action is in response to the Preliminary Amendment on 5/16/08. Claims 1-35 were

cancelled by the Applicant in the Preliminary Amendment.

Claim Objections

3.   Claim 36 is objected to because of the following informalities: In line 18, "an cumulative

length" should be amended to "a cumulative length" to correct the grammatical error.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   **Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al.**

(hereinafter Tanaka) (US 2005/0144234 A1) in view of Cheeniyil et al. (hereinafter

Cheeniyil) (US 2002/0184293 A1), and further in view of Panagos et al. (hereinafter

Panagos) (US 6,601,035 B1).

5.   As to claim 36, Tanaka teaches a method for optimizing an allocation of system resources

(page 2, [0028], lines 1-4), comprising:

receiving job requests from at least two separate sources (Abstract, page 2, [0022]);

allocating system resources among the at least two separate sources to meet at least one

job processing obligation and to maximize a total profit of the system (page 1, [0006], Abstract);

and

scheduling (via schedule managing function 108) a processing order (based on priority)

of new job requests on-line (page 4, [0062], page 5, [0065]), wherein said scheduling is

accomplished by:

determining a completion deadline for a new job request (page 2, [0027]);

estimating a length of time needed to process the new job request by the

completion deadline (page 2, [0027]); and

scheduling a process time for the new job request based on the completion

deadline and an estimated process time as compared to completion deadlines and estimated

process times for existing jobs in the system (page 4, [0062], page 5, [0065]);

routing the new job request to a server in the system that can complete processing for the

new job request the soonest (page 2, [0028]);

assigning the new job request to an end of a server's job queue (job queuing server, page

2, [0019]);

6.   Tanaka fails to explicitly teach determining whether an cumulative length of time

necessary to process all jobs in the job queue, including the new job request, exceeds a longest

completion deadline among all jobs in the job queue. However, Cheeniyil discloses process

monitoring/managing to bring execution time close to expected deadline time. Expected time to

complete (ETC) values are determined based on a cumulative time to complete the process and it

evaluates whether the ETC value is less than or equal to a remaining time available to meet said expected deadline (see Abstract, page 1, [0005], [0006], [0008]-[0010], [0013]-[0014]). One of ordinary skill in the art would have known to modify Tanaka such that it would include the above teachings of Cheeniyil. The suggestion/motivation for doing so would have been to expedite execution of a process and to ensure processes to be within a deadline or at least closer to an expected value (page 1, [0001], [0003]).

7.   In addition, Tanaka and Cheeniyil are silent in temporarily stopping work on a job having a longest estimated processing time, if the cumulative length of time necessary to process all jobs in the job queue, including the new job request, exceeds a longest completion deadline among all jobs in the job queue. However, Panagos discloses dynamically predicting process/workflow completion times of deadlines, wherein it determines whether a cumulative length of time necessary to process all jobs exceeds a longest completion deadline and temporarily stopping work (escalations: restart, execute, resume, abort, and stop the normal flow of execution) if the deadline among all the jobs is exceeded (col. 2, lines 60-62, col. 3, lines 1-3, col. 5, lines 4-6, 26-37, col. 6, lines 26-30). One of ordinary skill the art would have known to modify Tanaka and Cheeniyil's system such that it would include the feature of temporarily stopping work on a job that is found to exceed the longest completion deadline among all jobs. The suggestion/motivation for doing so would have been to provide the predicted result of increased accuracy in prediction calculations as well as giving the opportunity to remedy certain situations when temporarily stopping work (col. 5, lines 58-65, col. 6, lines 47-50).

8.   Finally, Tanaka, Cheeniyil, and Panagos do not explicitly teach determining a minimum percentage of job requests to be processed by the system. Instead, Tanaka does teach optimizing

the allocation of jobs in the computer system. Therefore, in view of Tanaka, it would be obvious

to determine the minimum percentage of job requests to be processed because it would be

desirable to discover which unit is least loaded, so that allocation could be done there first to

achieve load balancing and to thus optimize the allocation. Thus, it would have been obvious to

combine Tanaka, Cheeniyil and Panagos to obtain the invention of claim 36.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure:

- **Akiyama et al. (US 6,430,594 B1)** discloses that if deadline times are exceeded,
  it makes it difficult to treat tasks (col. 5, lines 15-44).

- **Kalavade et al. (US 6,393,433 B1)** teaches that it is not desirable to have a
  deadline miss (exceeding the deadline) because it would hinder the performance
  of processing (col. 1, lines 22-32).

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to KENNETH TANG whose telephone number is (571)272-3772.

The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/   /Kenneth Tang/
Supervisory Patent Examiner, Art Unit 2195   Examiner, Art Unit 2195